

Claims:

1. A method of expanding at least a portion of a tubular body into a wellbore, comprising:
 - running a deformed tubular body into the wellbore;
 - reforming the tubular body; and
 - expanding at least the portion of the reformed tubular body.
2. The method of claim 1, wherein the deformed tubular body comprises a tubular body having a corrugated cross-section.
3. The method of claim 1, wherein reforming the tubular body comprises expanding the deformed tubular body into a substantially tubular shape.
4. The method of claim 1, wherein reforming the tubular body comprises shaping the tubular body to form a tubular shape.
5. The method of claim 1, wherein reforming the tubular body comprises enlarging a smallest inner diameter of the deformed tubular body to an inner diameter at least as large as the original tubular body.
6. The method of claim 1, wherein expanding at least the portion of the reformed tubular body comprises enlarging the inner diameter of the reformed tubular body.
7. The method of claim 1, wherein expanding the at least the portion of the reformed tubular body comprises expanding at least the portion of the tubular body past its elastic limit.
8. The method of claim 1, wherein a compliant expander is used for expanding at least the portion of the reformed tubular body.

9. The method of claim 8, wherein the compliant expander is mechanically actuated.
10. The method of claim 8, wherein the compliant expander is hydraulically actuated.
11. The method of claim 8, wherein a radius of curvature between the expansion surface of the compliant expander and the release surface of the compliant expander is selected to reduce elastic recovery of the tubular body after expansion.
12. The method of claim 11, wherein the radius of curvature between the expansion surface of the compliant expander and the release surface of the compliant expander is selected according to the relationship between a maximum diameter of the compliant expander and an inner diameter of the tubular body prior to expansion.
13. The method of claim 12, wherein the radius of curvature between the expansion surface of the compliant expander and the release surface of the compliant expander equals a factor multiplied by the difference between the maximum diameter of the compliant expansion tool and the inner diameter of the tubular body prior to expansion,
wherein the factor ranges from 0.3 and 0.7.
14. The method of claim 13, wherein the factor is 0.5.
15. The method of claim 8, wherein a radius of curvature between the expansion surface of the compliant expander and the release surface of the compliant expander is selected to expand the tubular body to an inner diameter which is larger than a diameter of the release surface of the compliant expander.
16. A method of forming a substantially monobore well, comprising:

running a deformed first casing string into a wellbore;
reforming the first casing string; and
expanding a lower portion of the first casing string past its elastic limit.

17. The method of claim 16, further comprising:
running a second deformed casing string into the wellbore to a depth at which the lower portion of the first casing string overlaps a portion of the second casing string; and
reforming the second casing string.

18. The method of claim 17, further comprising expanding a lower portion of the second casing string past its elastic limit.

19. The method of claim 17, wherein an inner diameter of the second casing string is at least as large as an inner diameter of a portion of the first casing string which is not expanded past its elastic limit.

20. The method of claim 19, wherein a compliant expander tool expands the lower portion of the first casing string.

21. The method of claim 20, wherein the compliant expander tool comprises mismatched collet fingers expandable by movement over a cone.

22. A method of expanding at least a portion of a tubular body into a wellbore, comprising:

running a deformed tubular body into a wellbore through a restricted inner diameter portion of the wellbore;

locating the deformed tubular body below the restricted inner diameter portion;

reforming the tubular body; and

expanding at least the portion of the tubular body past its elastic limit.

23. The method of claim 22, wherein the restricted inner diameter portion comprises a casing patch.
24. The method of claim 22, wherein the restricted inner diameter portion comprises casing.
25. The method of claim 22, wherein the inner diameter of the tubular body after reforming the tubular body is at least as large as the restricted inner diameter portion of the wellbore.
26. The method of claim 22, wherein reforming the tubular body comprises increasing an outer diameter of the tubular body.
27. The method of claim 22, further comprising deforming the tubular body by forming grooves within the tubular body prior to running the deformed tubular body into the wellbore.
28. The method of claim 22, wherein expanding at least the portion of the tubular body increases the inner diameter of the at least the portion of the tubular body.
29. A method of expanding a tubular body into a wellbore, comprising:
providing a first assembly comprising:
 a deformed first tubular body,
 a first expander tool disposed within the first tubular body, and
 a second expander tool with extendable members connected to the first expander tool;
running the first assembly into a wellbore;
reforming the first tubular body to a first inner diameter with the first expander tool; and

expanding at least a portion of the first tubular body to a second, larger inner diameter with the second expander tool.

30. The method of claim 29, wherein the first expander tool comprises an expander cone.

31. The method of claim 29, wherein the second expander tool comprises a body with extendable members therein, wherein the members are extendable in response to hydraulic pressure.

32. The method of claim 29, wherein the second expander tool comprises a body having mismatched collet fingers extendable by movement along a cone.

33. The method of claim 32, wherein the collet fingers comprise a flexible material.

34. The method of claim 29, wherein the reforming and expanding is accomplished without removing the first assembly from the wellbore.

35. The method of claim 29, wherein the second expander tool is connected below the first expander tool.

36. The method of claim 29, wherein the at least the portion of the tubular body is the lower portion.

37. The method of claim 36, further comprising:
removing the first expander tool and the second expander tool from the wellbore;
providing a second assembly comprising:
a deformed second tubular body,
the first expander tool disposed within the second tubular body, and

the second expander tool connected to the first expander tool;
placing an upper portion of the second tubular body adjacent to the lower portion of the first tubular body;
reforming the second tubular body to a first inner diameter with the first expander tool; and
expanding at least a portion of the second tubular body to a second, larger inner diameter with the second expander tool.

38. An apparatus for forming a cased wellbore, comprising:
a deformed, expandable casing string;
a first expander tool; and
a second expander tool having extendable members therein connected to a lower portion of the first expander tool,
wherein the expander tools are disposed within the casing string.
39. The apparatus of claim 38, wherein the second expander tool comprises mismatched, opposing flexible members expandable by moving along a cone, wherein the opposing flexible members move along the cone to engage one another.
40. The apparatus of claim 38, wherein the second expander tool comprises a body with extendable members therein, wherein the members are extendable in response to hydraulic pressure.
41. The apparatus of claim 38, wherein the extendable members of the second expander tool are mechanically actuated to expand the casing string past its elastic limit.
42. The apparatus of claim 38, wherein the first expander tool comprises an expander cone.